REMARKS

Applicants have thoroughly considered the Office action and have amended the application to more clearly set forth the invention. Applicants note that while the Amendment dated 6/30/05 was acknowledged by the Examiner, the addition of claim 51 in that Amendment may have been overlooked. Claim 51 was not indicated on the Index of Claims (dated 9/28/2005) in the file wrapper. Additionally, claim 51 was not rejected, allowed, or otherwise mentioned in the Office action. Applicants respectfully request that the Examiner acknowledge the addition of claim 51.

Claims 1-3, 5-31 and 33-51 are presented in the application for further examination. Claims 1, 2, 5-6, 15-17, 23-25, 43, and 48-50 have been amended by this Amendment D. Reconsideration of the application as amended and in view of the following remarks is respectfully requested. No new matter has been added.

Claim Rejections under 35 U.S.C. § 103(a)

Applicants note the references listed on form PTO-892 of this Office Action (U.S. Patent No. 6,085,265 Kou and U.S. No. Patent 6,105,097 Larky et al.) are not the references cited in Detailed Action (U.S. Patent No. 5,752,050 Hernandez et al. and U.S. Patent No. 6,496,938 Fry et al.). Applicants have responded the Examiner's comments concerning the Hernandez et al. and Fry et al. references.

Claims 1-3, 5-31, and 33-50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hernandez et al. (U.S. Patent No. 5,752,050) and Fry et al. (U.S. Patent No. 6,496,938). Applicants respectfully disagree. Specifically, Hernandez et al and Fry et al. do not teach decentralized driver based device management; and Hernandez et al. and Fry et al. do not teach that the idle request of a child is propagated through tree from the child to the parent, from the parent to the hub. Yet, to further prosecution, applicants have amended claims 1, 2, 5-6, 15-17, 23-25, 43, and 48-50 to more clearly recite these aspects of the present invention.

Claims 1, 43 and 48 have been amended to more clearly recite decentralized driver based device management. With regard to claim 1, the claim has been amended to recite the following:

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A method for signaling and waiting to suspend first devices, **said first devices and second devices associated with a computer, said first devices having a suspend status independent of a suspend status of said second devices**, said first devices being connected to a root hub via a communications medium, said method comprising: determining via a driver of at least one of the first devices when the at least one of the first devices is ready to be suspended;

sending an idle request from the driver of the at least one of the first devices to the root hub when the at least one of the first devices is determined to be ready to be suspended, **said sending being independent of any idle requests sent by the second devices**;

waiting, by the driver of the at least one of the **first devices** that sent the idle request, to receive a call from the root hub to a callback function associated with the device; and

executing by the driver the callback function to suspend the at least one of the first devices that sent the idle request while maintaining a state associated with each of the other first devices.

In other words, claim 1 recites a decentralized method for a computer with first devices and second devices. Only the first devices are connected to a root hub and the root hub only receives idle requests from the first devices.

With respect to claim 43, the claim has been amended to recite "said tree and additional devices being associated with a computer" and "all child devices thereof are suspended independently of the other devices in the tree and independently of the additional devices, whereby the controller component does not suspend the additional devices and does not receive idle requests from the additional devices". In other words, the additional devices are not connected to the controller component and the controller component does not manage these devices.

With respect to claim 48, the claim has been amended to recite "wherein the first device connected to the root hub and second device not connected to the root hub are associated with a computer said transmitting is independent of any idle requests by the second device". In other words, the second device is not connected to the root hub and root hub does not manage the second device.

In contrast, Hernandez et al. teaches centralized device control where <u>all</u> devices send requests to a central decision making software (Hernandez et al., Fig. 1, column 4, lines 49-51).

Fry teaches and illustrates that CRL2 40 aggressively controls and "If any PCI device 23 which does not respond by asserting its individual copy of the CLKRUN# signal 28 (i.e.,

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CLKRUN# 28A, 28B or 28C) to indicate that it is active, then that PCI device 23 will not be considered idle." (Fry, column 7, lines 36 and 58-62). Thus, Fry teaches that the PCI devices are responsive to the CRL2 and do not determine via a driver or do not have a driver component. Therefore, Hernandez et al. and Fry et al. do not teach decentralized driver based device management. Accordingly, it is submitted that claims 1, 43, and 48 and the claims depending thereon are patentable.

With regard to claims 11, 25, and 34, Fry et al. and Hernandez et al. do not teach that the idle request of a child device is propagated through the tree until it is received by the hub. Claim 11 recites "propagating the idle request from at least one of the devices to a controller at a root of a tree structure. Amended claim 25 recites "the idle request form each of the child devices propagates through the tree from the parent device to the USB hub controller" and claim 34 recites "a signaling component ... wherein the idle request propagates through the tree from the parent device to a root hub." For example, the idle request is initiated by a child device and the idle request is sent to the parent of the child, then the child's parent sends the request on to its parent (if it has one), and so forth until the request is sent to the hub.

In contrast, Fry fails to recognize the need for considering child devices and teaches and illustrates that the PCI devices are independent of each other (Fry, column 7, lines 65-67). Thus, Fry does not teach that the idle request is initiated by a child device and the idle request is sent to the parent of the child, then the child's parent sends the request on to its parent (if it has one), and so forth until the request is sent to the hub.

Furthermore, the Examiner fails to address this aspect of the present invention in the Office action. On page 4 of the Office action, the Examiner states "Regarding claims 9-14, Hernandez teaches that the at least one of the devices has one or more child nodes in the tree structure and wherein the at least one of the devices is ready to be suspended only when all of the one or more child nodes thereof is ready to be suspended." This does not teach the propagating of idle requests from child to parent to hub, as recited by the claims.

Regarding the first reference cited by the Examiner (Hernandez et al., column 8, lines 21-31), the reference describes the process that the Power Management Coordinator (PM Coordinator) uses to determine if a requested power change should be granted. (Hernandez et al., column 8, lines 8-10) The PM Coordinator is a centralized software program that manages all devices within the computer. (Hernandez et al., Figure 1, column 4, lines 49-51) The tree

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referred to in the process is a data structure utilized by the PM Coordinator and does not represent the actual physical structure of the devices. (Hernandez et al., column 8, lines 13 – 16). The reference teaches that "the device below the requesting device in the hierarchical tree is checked [by the PM Coordinator] to see if it needs power". (Hernandez et al., column 8, lines 22 – 24) This disclosure is does not make claims 11, 25 and 34 obvious because the reference discloses the process of the PM coordinator <u>after</u> it has received an idle request and does not address the route the idle request took from the child device to PM coordinator. Therefore the reference cited by the Examiner does not disclose the methods and computer-readable media recited claims 11, 25 and 34, where the child device sends its idle request to its parent and the request is propagated from parent to hub in the tree.

The second reference cited by the Examiner (Hernandez et al., column 8, line 64 – column 9, line 11), describes the process that the Power Management Coordinator (PM Coordinator) uses to determine if a requested power down should be granted. (Hernandez et al., column 8, lines 64–67) Again, this disclosure is different than claim 11 for at least the reason that the reference discloses the process of the PM coordinator <u>after</u> it has received an idle request and does not address the route the idle request took from the child device to PM coordinator. (Hernandez et al., column 8, line 67– column 9, line 1) Therefore, Hernandez et al. and Fry et al. do not teach the methods and computer-readable media recited in claims 11, 25 and 34.

Accordingly, it is submitted that claims 11, 25 and 34 and the claims depending thereon are patentable.

It is felt that a full and complete response has been made to the Office action and, as such, places the application in condition for allowance. Such allowance is hereby respectfully requested. Although the prior art made of record and not relied upon may be considered pertinent to the disclosure, none of these references anticipates or makes obvious the recited invention. The fact that Applicants may not have specifically traversed any particular assertion by the Office should not be construed as indicating Applicants' agreement therewith.

The Applicants wish to expedite prosecution of this application. If the Examiner deems the claims as amended to not be in condition for allowance, the Examiner is invited and encouraged to telephone the undersigned to discuss making an Examiner's amendment to place the claims in condition for allowance.

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The Commissioner is hereby authorized to charge any deficiency or overpayment of any required fee during the entire pendency of this application to Deposit Account No. 19-1345.

Respectfully submitted,

Frank R. Agovino, Reg. No. 27,416
SENNIGER POWERS
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
(314) 231-5400

FRA/BAW/cjl

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